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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/662,294	09/16/2003	Tadashi Amada	02887.0249	4299
22852	7590	06/04/2009		
FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER LLP 901 NEW YORK AVENUE, NW WASHINGTON, DC 20001-4413			EXAMINER LAO, LUN S	
			ART UNIT 2614	PAPER NUMBER
			MAIL DATE 06/04/2009	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/662,294

**Applicant(s)**

AMADA ET AL.

**Examiner**

LUN-SEE LAO

**Art Unit**

2614

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 March 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 21-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 21-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SE-US)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### *Introduction*

1. This action is in response to the amendments filed on 03-12-2009. Claims 1-20 have been canceled and claim 23 has been amended. Claims 1-24 are pending.

### ***Continued Examination Under 37 CFR 1.114***

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 03-12-2009 has been entered.

### ***Drawings***

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "the directivity detector repeats the detection of the input sound multiple times, supplies the voice recognition unit with the output of the microphone array having the directivity set by the directivity setting unit based on a first detection result of the direction of the input sound, and conducts the subsequent detection of the direction of the input sound by using a

sound other than the certain keyword" must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 112***

4. Claim 23 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession

of the claimed invention. Claim 23 recites "the directivity detector repeats the detection of the input sound multiple times, supplies the voice recognition unit with the output of the microphone array having the directivity set by the directivity setting unit based on a first detection result of the direction of the input sound, and conducts the subsequent detection of the direction of the input sound by using a sound other than the certain keyword". Applicant point out this limitation is supported by specification page 19, line 30 to page 20 line 4(see the remarks page 7 1<sup>st</sup> paragraph).

The examiner reads it carefully, but can not find any support in the specification including the pages cited by applicant that teaches how the directivity detector repeats the detection of the input sound multiple times is performed and how the subsequent detection of the direction of the input sound by using a sound other than the certain keyword is performed. Thus the 112 rejection is maintained.

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nogi (JP 2001-296891) in view of USPAT 6,931,596 to Gutta et al. (hereafter Gutta).

Consider claim 21 Nogi teaches a directional setting apparatus, comprising:

a microphone array having a plurality of microphones, each microphone importing an input sound(see fig. 1 (1a,1b,1c)) and abstract);

a voice recognition unit(see fig.1 (44)) configured to detect a certain keyword included in a sound signal based on the input sound and set a directional determination period based on an occurrence time of a sound signal corresponding to the certain keyword (see fig. 3(A3)) and see detail description page 4 [0014]-page 6 [0020] and means page 4 [0039]);

a directivity detector (see fig.1 (5)) configured to detect a direction of the input sound in the directional determination period and output the detected result (see fig. 4 and see detail description page 4 [0014]-page 6 [0020]); and

a directivity setting unit (see fig.1 (31)) configured to set a directivity of a prescribed apparatus based on the detected result of the directivity detector (see detail description page 4 [0012]- [0014]); but Nogi does not explicitly teach wherein the voice recognition unit recognizes a keyword for releasing the directivity set by the directivity setting unit and outputs a directivity release signal; and the directivity setting unit releases the directivity of the prescribed apparatus when the directivity release signal is supplied from the voice recognition unit.

However, Gutta teaches wherein the voice recognition unit(see fig.1 (52)) recognizes a keyword for releasing the directivity set by the directivity setting unit and outputs a directivity release signal (see figs. 1-2 and abstract); and the directivity setting unit releases the directivity of the prescribed apparatus when the directivity release signal is supplied from the voice recognition unit (see figs. 1-2 and col.10 line 58-col. 11 line 7).

Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Nogi with the teaching of Gutta to provide more accurate to pick up speaker in the image.

. Consider claim 22 Nogi as modified by Gutta teaches the directional setting apparatus wherein the directivity setting unit stores the detected result of the directivity detector when the detected result is given before the directivity release signal is inputted, and sets the directivity of the prescribed apparatus based on the detected result of the directivity detector store after the directivity release signal is inputted (in Gutta, see figs. 1-2 and col.10 line 58-col. 11 line 7).

7. Claims 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nogi (JP 2001-296891) in view of USPAT 5,778,082 to Chu et al. (hereafter Chu).

Regarding Claim 23, as base on 112 first paragraph problem state above, Nogi discloses a directional setting apparatus, comprising: a microphone array having a plurality of microphones, each microphone importing an input sound(see fig. 1 (1a,1b,1c)) and abstract);

a voice recognition unit (see fig.1 (44)) configured to detect a certain keyword included in a sound signal based on the input sound and set a directional determination period based on an occurrence time of a sound signal corresponding to the certain keyword (see fig. 3(A3)) and see detail description page 4 [0014]-page 6 [0020] and means page 4 [0039]);

a directivity detector (see fig.1 (5)) configured to detect a direction of the input sound in the directional determination period and output the detected result; and

a directivity setting unit(see fig.1 (31)) configured to set a directivity of a prescribed apparatus based on the detected result of the directivity detector, wherein the directivity detector repeats the detection of the input sound multiple times( see claims 2-4), supplies the voice recognition unit with the output of the microphone array having the directivity set by the directivity setting unit based on a first detection result of the direction of the input sound, and conducts the subsequent detection of the direction of the input sound(see figs 1-3 and detail description page 4 [0012]- [0014]); but Nogi does not explicitly teach conducts the subsequent detection of the direction of the input sound by using a sound other than the certain keyword.

However, Chu teaches the microphone array (see fig.1 (10, 11) having the directivity set by the directivity setting unit (80) based on a first detection result of the direction of the input sound, and conducts the subsequent detection of the direction of the input sound by using a sound other than the certain keyword (see figs 1-4 and abstract and col. 2 line 36-col. 3 line 67).

Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Nogi with the teaching of Chu to provide more choice and more accurate to tracking the sound source's direction in the system.

Consider claim 24 Nogi as modified by Chu teaches the directional setting apparatus wherein the directivity setting unit sets a direction of image pick-up in a camera(in Chu, see figs 1-4 and abstract and col. 2 line 36-col. 3 line 67).



### ***Response to Arguments***

8. Applicant's arguments with respect to claims 21-24 have been considered but are moot in view of the new ground(s) of rejection.

Applicant argued about the objection to the Drawings (see the remarks page 5 last paragraph).

The examiner response is as following: since the examiner still can not find the claimed "the directivity detector repeats the detection of the input sound multiple times" as recited in claim 23 in figure 6, the objection to fig. 6 is maintained.

Applicant further argued that 112 first paragraph rejection (see remarks page 6 last paragraph) is improper. Applicant point out this limitation is supported by specification page 19, line 30 to page 20 line 4(see the remarks page 7 1<sup>st</sup> paragraph).

The examiner reads it carefully, but can not find any support in the specification including the pages cited by applicant that teaches how the directivity detector repeats the detection of the input sound multiple times is performed and how the subsequent detection of the direction of the input sound by using a sound other than the certain keyword is performed. Thus the 112 rejection is maintained.

### ***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Chang et al. (US PAT. 6,469,732) is recited to show how other related directional setting apparatus, directional setting system, directional setting method and directional setting program.

10. Any response to this action should be mailed to:

Mail Stop \_\_\_\_ (explanation, e.g., Amendment or After-final, etc.)

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Facsimile responses should be faxed to:

**(571) 273-8300**

Hand-delivered responses should be brought to:

Customer Service Window  
Randolph Building  
401 Dulany Street  
Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lao,Lun-See whose telephone number is (571) 272-7501. The examiner can normally be reached on Monday-Friday from 8:00 to 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin, can be reached on (571) 272-7848.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 whose telephone number is (571) 272-2600.

Lao,Lun-See  
/LUN-SEE LAO/  
Examiner, Art Unit 2614  
Patent Examiner  
US Patent and Trademark Office  
Knox  
571-272-7501  
Date 05-28-2009

/Vivian Chin/

Supervisory Patent Examiner, Art Unit 2614